Attorney Docket: **GBTI94US**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
	)	
DONALD L. SCHILLING	)	
	)	
Serial No. NOT YET KNOWN	)	Group Art Unit:
	)	
Filed: NOT YET KNOWN	)	Examiner:
	)	
For: MULTICHANNEL SPREAD-SPECTRUM PACKET	)	
	)	

Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT A

Prior to calculating to filing fees, enter the following amendments:

IN THE TITLE:

Delete the title in its entirety and substitute the following therefor:

--PACKET SPREAD-SPECTRUM TRANSMITTER--.

IN THE SPECIFICATION:

Page 28, line 1, change "WE CLAIM" to --I CLAIM--.

In the Abstract:

Delete the Abstract in its entirety, and substitute the following therefor:

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

--**ABSTRACT OF DISCLOSURE**

A packet spread-spectrum transmitter for encoding and transmitting data with a spread-spectrum packet-switched system. An encoder encodes data to be transmitted. A demultiplexer demultiplexes the encoded data into sub-data-sequence signals. A plurality of product devices multiply each sub-data-sequence signal by a respective chip-sequence signal to generate a plurality of spread-spectrum channels. A combiner combines the plurality of spread-spectrum channels as a multichannel spread-spectrum signal. The multichannel spread-spectrum signal is concatenated with a header by a header device to output a packet-spread-spectrum signal which is transmitted over radio waves to a packet receiver.--

IN THE CLAIMS:

Delete claims 1-15, and add the following claims:

--16. A method, using a packet transmitter, comprising the steps of:

storing data from a data input, as stored data;

demultiplexing the stored data into a plurality of sub-data-sequence channels;

spread-spectrum processing the plurality of sub-data-sequence signals by a plurality of chip-sequence signals, respectively, thereby generating a plurality of spread-spectrum channels, with each of the plurality of chip-sequence signals

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

different from other chip-sequence signals in the plurality of chip-sequence signals;

combining the plurality of spread-spectrum channels as a multichannel-spread-spectrum signal;

concatenating a header to the multichannel-spread-spectrum signal, thereby generating a packet-spread-spectrum signal; and

transmitting on a carrier frequency using radio waves, the packet-spread-spectrum signal over a communications channel.

17. The method as set forth in claim 16, further including, between the steps of storing and demultiplexing, encoding the stored data as encoded data, with the step of demultiplexing the stored data including the step of demultiplexing the encoded data into the plurality of sub-data-sequence channels.

18. The method as set forth in claim 16, further including, between the steps of storing and demultiplexing, scrambling the stored data as encoded data, with the step of demultiplexing the stored data including the step of demultiplexing the encoded data into the plurality of sub-data-sequence channels.

19. The method as set forth in claim 16, further including, between the steps of storing and demultiplexing,

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

encrypting the stored data as encoded data, with the step of demultiplexing the stored data including the step of demultiplexing the encoded data into the plurality of sub-data-sequence channels.

20. The method as set forth in claim 16, with the step of spread-spectrum processing including the step of multiplying the plurality of sub-data-sequence signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.

21. The method as set forth in claim 16, with the step of spread-spectrum processing including the step of multiplying the plurality of sub-data-sequence signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

22. The method as set forth in claim 16, with the step of combining including the step of algebraically combining the plurality of spread-spectrum channels as the multichannel-spread-spectrum signal.

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

23. The method as set forth in claim 16, 20 or 21 with the step of concatenating including the step of concatenating the header to the multichannel-spread-spectrum signal at an initial point of the multichannel-spread-spectrum signal, thereby generating the packet-spread-spectrum signal.

24. The method as set forth in claim 16, 20 or 21, with the step of concatenating including the step of concatenating the header to the multichannel-spread-spectrum signal, with the header followed in time by the multichannel-spread-spectrum signal, thereby generating the packet-spread-spectrum signal.

25. The method as set forth in claim 16, 20 or 21, with the step of spread-spectrum processing including the step of outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

26. The method as set forth in claim 16, 20 or 21, with the step of spread-spectrum processing including the step of outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

a sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

27. A packet transmitter comprising:

transmitter-memory means for storing data from a data input, as stored data;

demultiplexer means, coupled to said transmitter memory means, for demultiplexing the stored data into a plurality of sub-data-sequence channels;

spread-spectrum means, coupled to said demultiplexer means, for spread-spectrum processing the plurality of sub-data-sequence signals by a plurality of chip-sequence signals, respectively, thereby generating a plurality of spread-spectrum channels, with each of the plurality of chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals;

combiner means, coupled to said spread-spectrum means, for combining the plurality of spread-spectrum channels as a multichannel-spread-spectrum signal;

header means, coupled to said combiner means, for concatenating a header to the multichannel-spread-spectrum signal, thereby generating a packet-spread-spectrum signal; and

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

transmitter means, coupled to said header means, for transmitting on a carrier frequency using radio waves, the packet-spread-spectrum signal over a communications channel.

28. The packet transmitter as set forth in claim 27, further including encoder means, coupled between said transmitter-memory means and said demultiplexer means, for encoding the stored data as encoded data, with said demultiplexer means including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

29. The packet transmitter as set forth in claim 27, further including encoder means, coupled between said transmitter-memory means and said demultiplexer means, for scrambling the stored data as encoded data, with said demultiplexer means including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

30. The packet transmitter as set forth in claim 27, further including encoder means, coupled between said transmitter-memory means and said demultiplexer means, for encrypting the stored data as encoded data, with said demultiplexer means including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

31. The packet transmitter as set forth in claim 27, with

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

said spread-spectrum means including multiplying means for multiplying the plurality of sub-data-sequence signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.

32. The packet transmitter as set forth in claim 27, with said spread-spectrum means including multiplying means for multiplying the plurality of sub-data-sequence signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

33. The packet transmitter as set forth in claim 27, with said combiner means including means for algebraically combining the plurality of spread-spectrum channels as the multichannel-spread-spectrum signal.

34. The packet transmitter as set forth in claim 27, 31 or 32, with said header means including means for concatenating the header to the multichannel-spread-spectrum signal at an initial point of the multichannel-spread-spectrum signal, thereby

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

generating the packet-spread-spectrum signal.

35. The packet transmitter as set forth in claim 27, 31 or 32, with said header means including means for concatenating the header to the multichannel-spread-spectrum signal, with the header followed in time by the multichannel-spread-spectrum signal, thereby generating the packet-spread-spectrum signal.

36. The packet transmitter as set forth in claim 27, 31 or 32, with said spread-spectrum means including spread-spectrum-memory means for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

37. The packet transmitter as set forth in claim 27, 31 or 3, with said spread-spectrum means including spread-spectrum-memory means for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in a sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

38. A packet transmitter comprising:

a transmitter memory for storing data from a data input, as stored data;

a demultiplexer, coupled to said transmitter memory, for demultiplexing the stored data into a plurality of sub-data-sequence channels;

spread-spectrum means, coupled to said demultiplexer, for spread-spectrum processing the plurality of sub-data-sequence signals by a plurality of chip-sequence signals, respectively, thereby generating a plurality of spread-spectrum channels, with each of the plurality of chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals;

a combiner, coupled to said spread-spectrum means, for combining the plurality of spread-spectrum channels as a multichannel-spread-spectrum signal;

a header device, coupled to said combiner, for concatenating a header to the multichannel-spread-spectrum signal, thereby generating a packet-spread-spectrum signal; and

a transmitter subsystem, coupled to said header device, for transmitting on a carrier frequency using radio waves, the packet-spread-spectrum signal over a communications

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

channel.

39. The packet transmitter as set forth in claim 38, further including, between said transmitter memory and said demultiplexer, an encoder for encoding the stored data as encoded data, with the demultiplexer including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

40. The method as set forth in claim 38, further including, between said transmitter memory and said demultiplexer, an encoder for scrambling the stored data as encoded data, with the demultiplexer including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

41. The packet transmitter as set forth in claim 38, further including, between said transmitter memory and said demultiplexer, an encoder for encrypting the stored data as encoded data, with the demultiplexer including means for demultiplexing the encoded data into the plurality of sub-data-sequence channels.

42. The packet transmitter as set forth in claim 38, with said spread-spectrum means including a plurality of product devices for multiplying the plurality of sub-data-sequence

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.

43. The packet transmitter as set forth in claim 38, with said spread-spectrum means including a plurality of product devices for multiplying the plurality of sub-data-sequence signals by the plurality of chip-sequence signals, respectively, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

44. The packet transmitter as set forth in claim 38, 42 or 43, with said header device including means for concatenating the header to the multichannel-spread-spectrum signal at an initial point of the multichannel-spread-spectrum signal, thereby generating the packet-spread-spectrum signal.

45. The packet transmitter as set forth in claim 38, 42 or 43, with said header device including means for concatenating the header to the multichannel-spread-spectrum signal, with the header followed in time by the multichannel-spread-spectrum

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

signal, thereby generating the packet-spread-spectrum signal.

46. The packet transmitter as set forth in claim 38, 42 or 43, with said spread-spectrum means including a memory for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

47. The packet transmitter as set forth in claim 38, 42 or 43, with said spread-spectrum means including a memory for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in a sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of chip-sequence signals orthogonal with respect to other chip-sequence signals in the plurality of chip-sequence signals.

48. The method as set forth in claim 16, 20 or 21 with the step of outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in a sub-data-sequence signal of the plurality of

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of the chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.

49. The packet transmitter as set forth in claim 27, 31 or 32, with said spread-spectrum means including spread-spectrum-memory means for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in a sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of the chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.

50. The packet transmitter as set forth in claim 38, 42 or 43, with said spread-spectrum means including spread-spectrum-memory means for outputting a respective chip-sequence signal of the plurality of chip-sequence signals in response to a respective data symbol in a sub-data-sequence signal of the plurality of sub-data-sequence signals, thereby generating the plurality of spread-spectrum channels, with each chip-sequence signal in the plurality of the chip-sequence signals different from other chip-sequence signals in the plurality of chip-sequence signals.--

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

REMARKS

In a parent patent application, the Examiner required a restriction requirement, to one of three groups. Group I is elected, and the claims are amended so that claims only from Group I are pending in the application. The Title and Abstract of Disclosure are amended accordingly, to be consistent with the elected group. A copy of the Abstract of Disclosure is attached, as a separate sheet.

Respectfully submitted,

DAVID NEWMAN CHARTERED

Date: December 5, 2000

By: _____

David B. Newman, Jr.
Registration No. 30,966

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100

ABSTRACT OF DISCLOSURE

A packet spread-spectrum transmitter for encoding and transmitting data with a spread-spectrum packet-switched system. An encoder encodes data to be transmitted. A demultiplexer demultiplexes the encoded data into sub-data-sequence signals. A plurality of product devices multiply each sub-data-sequence signal by a respective chip-sequence signal to generate a plurality of spread-spectrum channels. A combiner combines the plurality of spread-spectrum channels as a multichannel spread-spectrum signal. The multichannel spread-spectrum signal is concatenated with a header by a header device to output a packet-spread-spectrum signal which is transmitted over radio waves to a packet receiver.

T:\GBTI\GBTI94US.AM1.wpd

LAW OFFICES
DAVID NEWMAN
CHARTERED
CENTENNIAL SQUARE
P.O. BOX 2728
LA PLATA, MD 20646
(301) 934-6100